This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims:</u>

Claim 1 (Currently Amended): An image processing apparatus for performing image processing of image data, said image processing apparatus comprising:

a color <u>converter</u> ~~converting means~~ for converting by <u>use</u> ~~means~~ of a matrix operation image data of a first color system in a first color coordinate system, said <u>first</u> color system capable of representing a first color number, to image data of a second color system in a second color coordinate system, said <u>second</u> color system capable of representing a second color number more numerous than the first color number, while preserving the first color number;

<u>an</u> image <u>processor</u> ~~processing means~~ for performing image processing on the converted image data in the second color system; and

<u>a</u> reproductive color number <u>reducer</u> ~~reducing means~~ for reducing the reproductive color number of image data subjected to the image processing.

Claim 2 (Currently Amended): An image processing apparatus according to claim 1 wherein image processing performed by the image <u>processor</u> ~~processing means~~ includes gamma correction processing.

Claim 3 (Original): An image processing apparatus according to claim 2 wherein the first color system is the YCC color system, and the second color system is the sRGB color system.

Claim 4 (Currently Amended): An image processing apparatus according to claim 1 wherein the second color number of the second color system includes a color number represented by a negative value included in image data converted by the color <u>converter</u> ~~converting means~~ from the first color system to the second color system.

Claim 5 (Currently Amended): An image processing apparatus according to claim 4 wherein image processing performed by the image <u>processor</u> ~~processing means~~ includes gamma correction processing.

Claim 6 (Currently Amended): An image processing apparatus according to claim 4 or 5 wherein image processing performed by the image processor ~~processing means~~ includes color conversion processing using a second matrix operation.

Claim 7 (Currently Amended): An image processing apparatus according to claim 4 wherein the first color system is the YCC color system, and the second color system is the wRGB color system ~~has~~ having a wider color representation range than the sRGB color system.

Claim 8 (Currently Amended): An image processing apparatus for performing image processing on image data, said image processing apparatus comprising:

a first image processor ~~processing means~~ for modifying a color value of the image data represented by an integral value having first effective digits into a first value having a greater place number than the place number of the first effective digits;

a tone number reduction preventer ~~preventing means~~ for preventing reduction of tone number of the image data accompanying modification of color value by the first image processor ~~processing means~~; and

a second image processor ~~processing means~~ for modifying the color values of image data having the first value from the first value to a second value reflected in image output results.

Claim 9 (Currently Amended): An image processing apparatus according to claim 8 wherein the tone number reduction preventer ~~preventing means~~ prevents reduction of tone number of the image data by ~~means of~~ setting the effective digits of the first value to a greater place number than the place number of the first effective digits.

Claim 10 (Currently Amended): An image processing apparatus according to claim 9 wherein the data size of image data prevented by the tone number reduction preventer ~~preventing means~~ from tone number reduction is larger than the data size of image data represented by integers having the first effective digits.

Claim 11 (Currently Amended): An image processing apparatus according to any of claims 8 to 10 wherein the first image <u>processor</u> ~~processing means~~ is color space <u>converter</u> ~~converting means~~ for converting the color space of the image data from a first color space to a second color space.

Claim 12 (Currently Amended): An image processing apparatus according to claim 11 wherein the color space <u>converter</u> ~~converting means~~ converts the color space of the image data from the YCbCr color space to the RGB color space, and modifies a color value of the image data represented by integers having the first effective digits to the first value that includes a decimal point.

Claim 13 (Currently Amended): An image processing apparatus for performing image processing on image data, said image processing apparatus comprising:

<u>a</u> first color space <u>converter</u> ~~converting means~~ for increasing the tone number of the image data from a first tone number to a second tone number, as well as converting the color space of image data from the YCbCr color space to the sRGB color space;

<u>a</u> gamma <u>corrector</u> ~~correcting means~~ for performing gamma correction on the color space-converted image data;

<u>a</u> second color space <u>converter</u> ~~converting means~~ for converting the color space of gamma-corrected image data from the RGB color space to a wRGB color space having a wider defined range than the sRGB color space; and

<u>a</u> tone number <u>reducer</u> ~~reducing means~~ for restoring tone number of the color space-converted image data from the second tone number to the first tone number.

Claim 14 (Currently Amended): An image processing apparatus according to claim 13 further comprising:

<u>an</u> inverse gamma <u>corrector</u> ~~correcting means~~ for performing inverse gamma correction on the color space-converted image data;

wherein the tone number <u>reducer</u> ~~reducing means~~ restores the tone number of the inverse gamma-corrected image data, rather than the color space-converted image data, from the second tone number to the first tone number.

Claim 15 (Currently Amended): An image processing apparatus according to claim 14 further comprising:

an image corrector ~~correcting means~~ for automatically correcting quality of the inverse gamma corrected-image data;

wherein the tone number reducer ~~reducing means~~ restores the tone number of the quality-corrected image data, rather than the inverse gamma-corrected image data, from the second tone number to the first tone number.

Claim 16 (Currently Amended): A printing apparatus for outputting image-processed image data, said printing apparatus comprising:

the image processing apparatus according to claim 1 or any of claims 8, 9, 10, or 12 ~~to 12~~, and an output ~~means~~ for outputting image data subjected to image processing by the image processing apparatus.

Claim 17 (Currently Amended): A computer-readable medium having recorded thereon an image processing program for performing image processing on image data, wherein the image processing program realizes by means of a computer:

a function for converting by means of a matrix operation image data of a first color system in a first color coordinate system, said first color system capable of representing a first color number, to image data of a second color system in a second color coordinate system, said second color system capable of representing a second color number more numerous than the first color number, while preserving the first color number;

a function for performing image processing on the converted image data in the second color system; and

a function for reducing the reproductive color number of image data subjected to the image processing.

Claim 18 (Original): A computer-readable medium according to claim 17 wherein the second color number of the second color system includes a color number represented by a negative value included in image data converted from the first color system to the second color system by the color converting function.

Claim 19 (Original): A computer-readable medium according to claim 18 wherein the function for performing image processing is a function for executing at least one process selected from gamma correction and color conversion using a second matrix operation.

Claim 20 (Currently Amended): A computer-readable medium according to claim 18 wherein the first color system is the YCC color system, and the second color system is the wRGB color system ~~has~~ having a wider color representation range than the sRGB color system.

Claim 21 (Original): A computer-readable medium having recorded thereon an image processing program for performing image processing on image data, wherein the image processing program realizes by means of a computer:

a first image processing function for converting a color value of the image data represented by an integral value having first effective digits into a first value having a greater place number than the place number of the first effective digits;

a function for preventing reduction of tone number of the image data accompanying modification of color value by the first image processing function; and

a second image processing function for modifying a color value of image data having the first value from the first value to a second value that is reflected in image output results.

Claim 22 (Original): A computer-readable medium according to claim 21 wherein the preventing of reduction of tone number is realized by setting the effective digits of the first value to a greater place number than the place number of the first effective digits.

Claim 23 (Original): A computer-readable medium according to claim 22 wherein the data size of image data prevented by the tone number reduction preventing means from tone number reduction is larger than the data size of image data represented by integers having the first effective digits.

Claim 24 (Original): A computer-readable medium according to claim 22 or 23 wherein the first image processing function is color space converting function for converting the color space of the image data from a first color space to a second color space.

Claim 25 (Original): A computer-readable medium according to claim 24 wherein the color space converting function converts the color space of the image data from the YCbCr color space to the RGB color space, and modifies a color value of the image data represented by integers having the first effective digits to the first value that includes a decimal point.

Claim 26 (Original): A computer-readable medium having recorded thereon an image processing program for performing image processing on image data, wherein the image processing program realizes by means of a computer:

a first color space converting function for increasing the tone number of the image data from a first tone number to a second tone number, as well as converting the color space of image data from the YCbCr color space to the sRGB color space;

a gamma correcting function for performing gamma correction on the color space-converted image data,;

a second color space converting function for converting the color space of gamma-corrected image data from the sRGB color space to a wRGB color space having a wider defined range than the sRGB color space; and

a tone number reducing function for restoring the tone number of the color space-converted image data from the second tone number to the first tone number.

Claim 27 (Original): A computer-readable medium according to claim 26 wherein the image processing program further realizes by means of a computer:

an inverse gamma correcting function for performing inverse gamma correction on the color space-converted image data;

wherein the tone number reducing function is a function for restoring the tone number of the inverse gamma-corrected image data, rather than the color space-converted image data, from the second tone number to the first tone number.

Claim 28 (Original): A computer-readable medium according to claim 27 wherein the image processing program further realizes by means of a computer:

an image correcting function for automatically correcting quality of the inverse gamma corrected-image data;

wherein the tone number reducing function restores the tone number of the quality-corrected image data, rather than the inverse gamma-corrected image data, from the second tone number to the first tone number.